



Color Your World: Autodesk® Inventor® Materials and Appearances

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MA1884

Have you ever searched the standard Autodesk Material and Appearance libraries and wondered why the color you need doesn't exist? That's because you haven't created it yet! This class explains the difference between a Material and an Appearance override and describes how you use them in your Autodesk Inventor software model. We look at how to create just the right color for your needs and examine how changing the Visual Style setting can change how that color will display. Finally, we look at creating your own custom Inventor Material and Appearance libraries and discuss how you can share them with your colleagues.

Learning Objectives

At the end of this class, you will be able to:

- Explain the difference between a Materials and an Appearance overrides
- Create a new Material and Appearance override
- Describe how Visual Styles affect Appearance colors
- Create and share custom Inventor Material and Appearance libraries

About the Speaker

Based in Novi, Michigan, Timothy works as a technical consultant for i GET IT Online Training For Engineers from Tata Technologies. Focusing on online e-training for engineers using Autodesk software, Timothy has created numerous online training courses for i GET IT in both text and video format. Courses he has created include the programs Autodesk® Inventor®, AutoCAD®, Autodesk® Revit®, Autodesk® Inventor® Fusion, & Autodesk® Fusion 360. Prior to working for Tata Technologies, Timothy worked in manufacturing as a designer and engineer in the tooling and special machine field for 15 years. Most of that time was in Automotive manufacturing and assembly using Autodesk® Inventor®.

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Materials and Appearance Overrides

Appearances

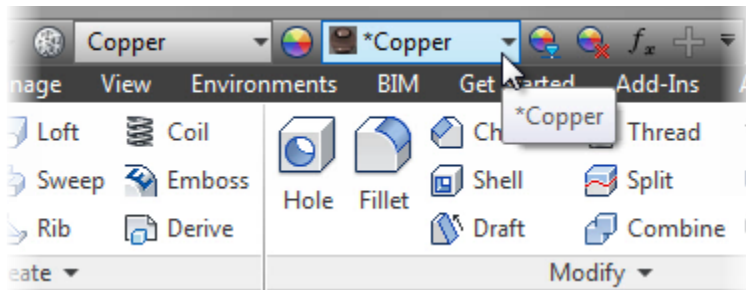
Appearance styles are the colors that are applied to the Inventor model.

Part Level

For a part file you can have up to four different appearance styles supplied.

1. The main appearance color applied your model comes from the material style and its appearance properties. The material appearance property is applied to the entire part.
2. An appearance style applied to the entire part is the part level appearance override. The appearance color overrides material appearance.

Note: The star next to the appearance name indicates the current appearance color is overriding the material appearance color.



3. The body level appearance override is applied by selecting a body in a multibody part and then selecting a different appearance style. The new appearance color is only applied to the body that was selected and overrides the part level appearance and material appearance colors.
4. The face or surface level appearance, overrides the color on a selected face of the part. The appearance color applied to a face overrides all appearance colors applied to the body, part or from the material.

Assembly Level

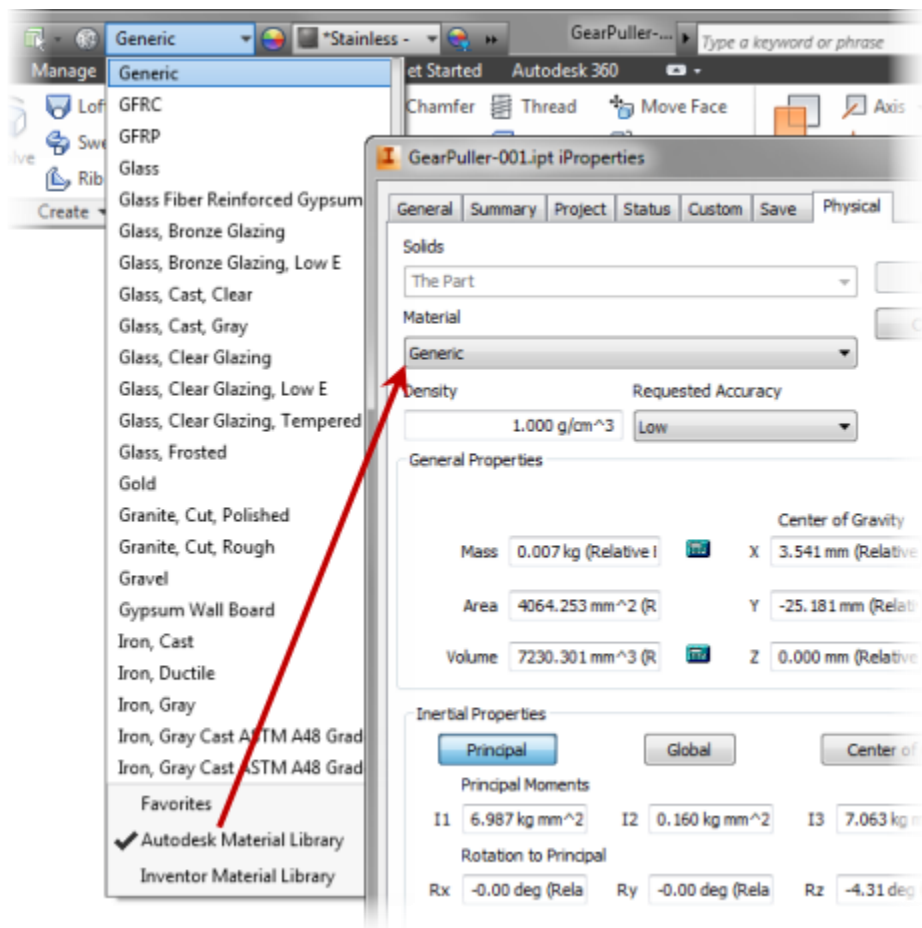
An appearance override set at the assembly level overrides all colors making everything in that assembly the same color.

Materials

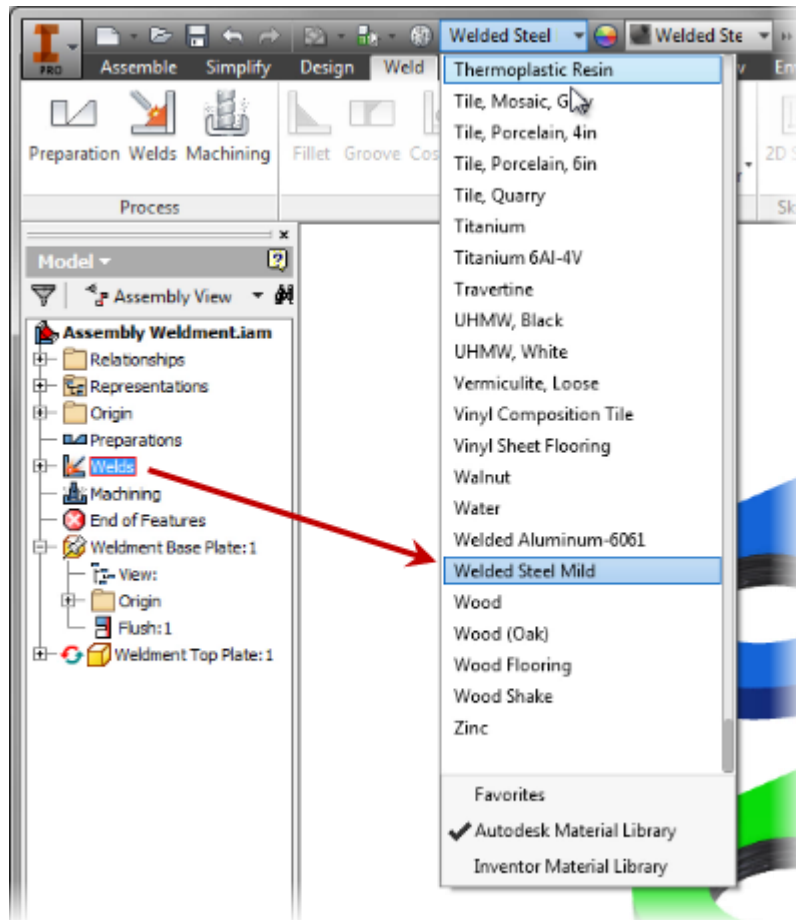
Material styles contain information for the physical properties about a material that can be applied to your designs. Each material style contains its own appearance properties. The appearance properties can be unique to that material style or reference an existing appearance style.

Materials are applied at the part level and can be accessed on the Quick Access Toolbar from the Material drop-down list or from the iProperties dialog box.

Note: The materials shown on the iProperties dialog box are those of the currently active material library.



In an assembly all materials are placed at the part level. The one exception to this is in the weldment environment. Selecting the Welds item in the browser you can then select the material for all welds with in that weldment assembly.



Creating a New Material and Appearance Override

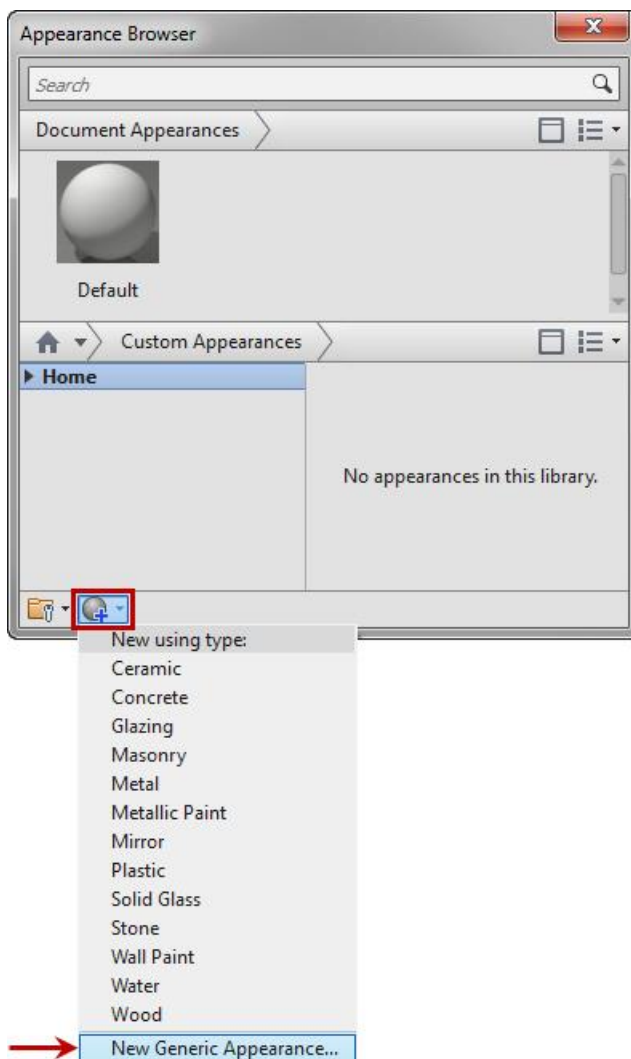
Create Appearance Style

- On the **Quick Access Toolbar**, click the **Appearance** tool

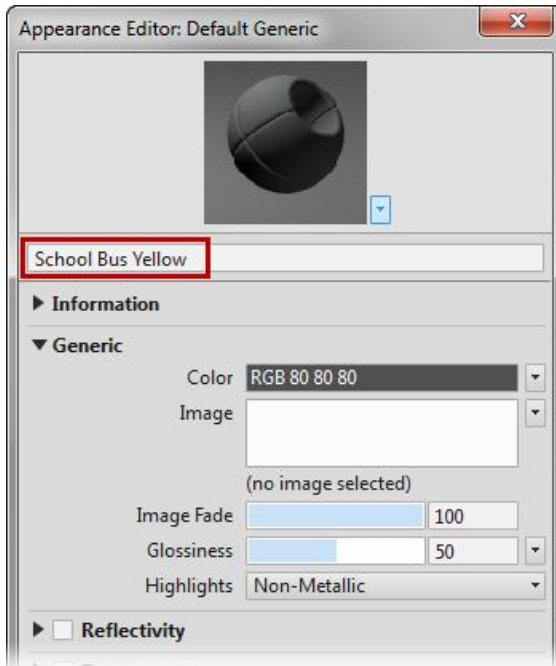


- Click the **Create Appearance** button in the lower left corner of the **Appearance Browser**.

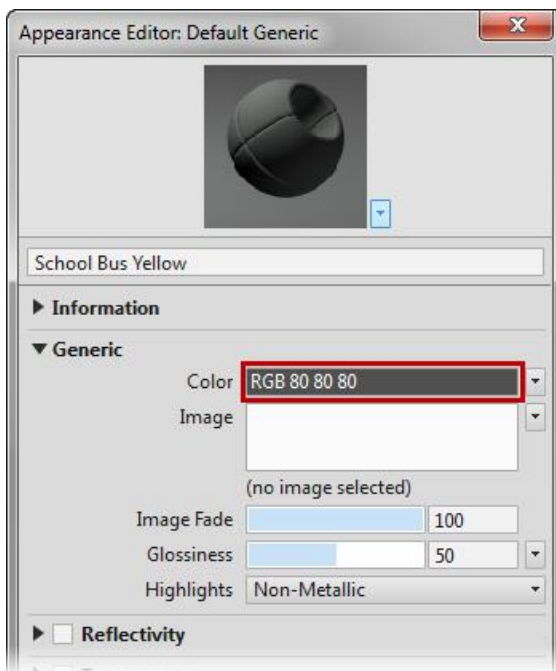
NOTE: The **New Generic Appearance** options give access to all Appearance settings



- In the **Appearance Editor** dialog box, edit the **Appearance** name:



- Edit the color by clicking on the RGB value:



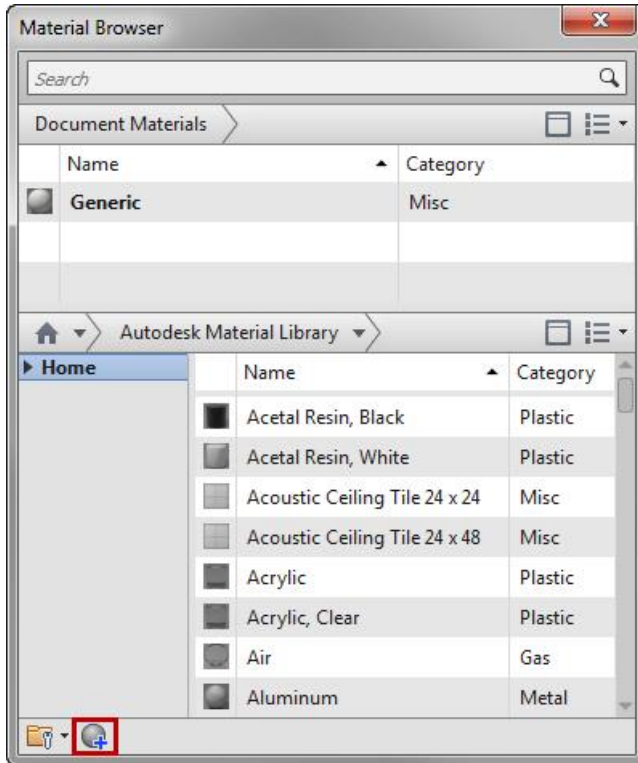
- Edit additional options as required.

Create Material Style

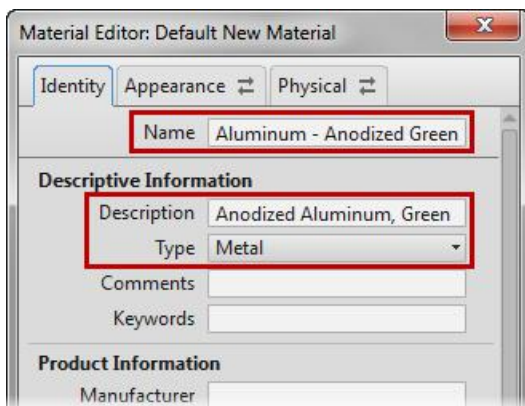
- On the **Quick Access Toolbar**, click the **Materials** tool



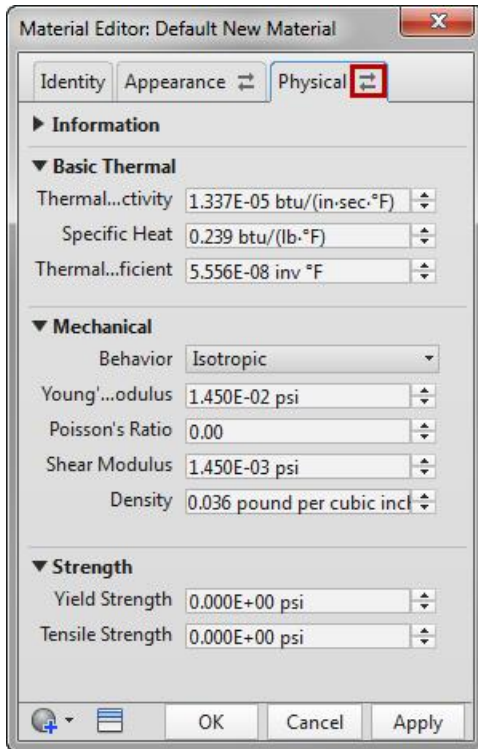
- Click the **Create Material** button in the lower left corner of the **Material Browser**.



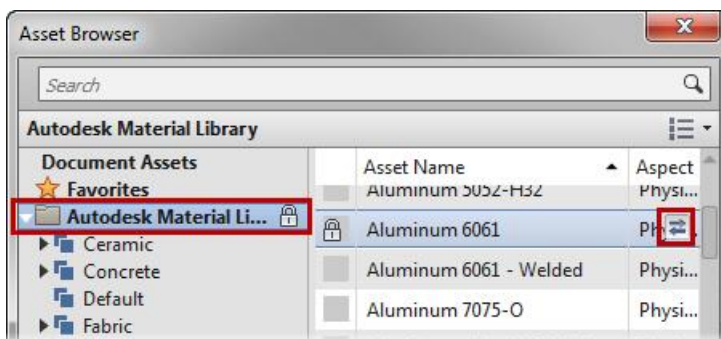
- In the **Material Editor** dialog box, edit the Identity information



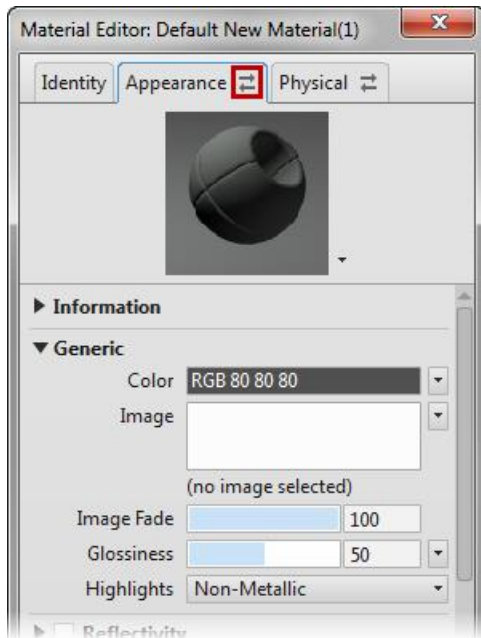
- In the **Material Editor** dialog box, on the **Physical** tab click the **Replace Asset** button to open the **Asset Browser**.



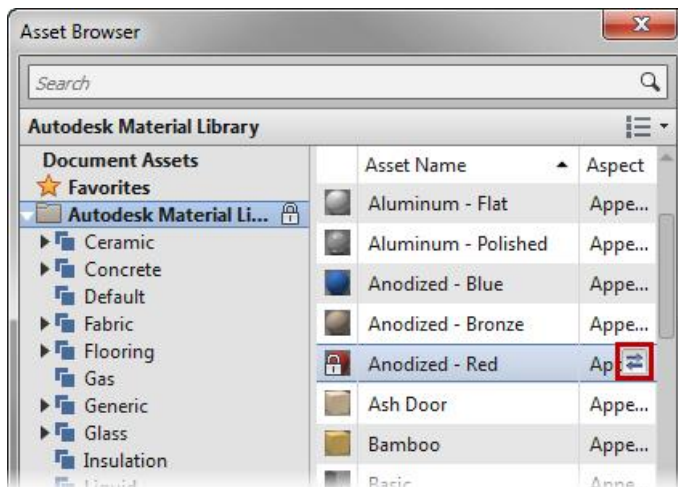
- In the **Asset Browser**, select a material asset, click the **Replace Asset** button.



- In the **Material Editor** dialog box, on the **Appearance** tab click the **Replace Asset** button to open the **Asset Browser**.

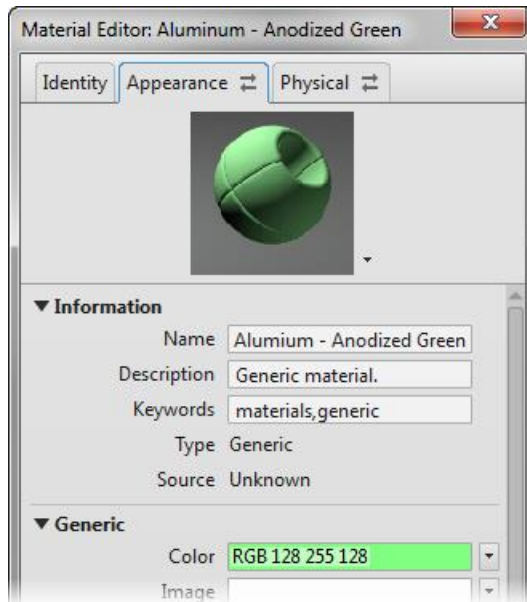


- In the **Asset Browser**, select a similar appearance asset to what is desired for the final style, click the **Replace Asset** button.



- In the **Material Editor** dialog box, on the **Appearance** tab click the RGB color swatch to edit the appearance color.

- In the **Material Editor** dialog box, on the **Appearance** tab enter a new appearance name:



- Edit additional options as required.

Visual Styles and How They Affect Appearance Colors

When creating appearance style colors one of the major factors that should be considered is the final lighting style which would be used in your final presentation. Changes in the lighting style can dramatically change the way the colors are displayed on your model. There are several predefined lighting styles located on the **Appearance** panel on the **View** tab.

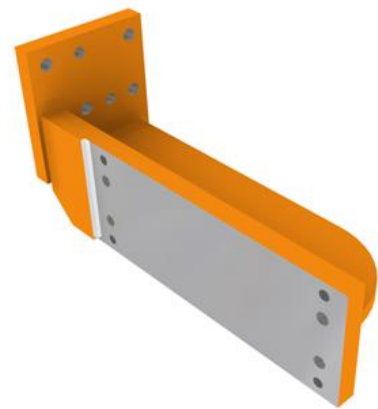
Some of the image-based lighting styles, such as the lighting style *Old Warehouse*, give some of the best color results that match the RGB values of the appearance colors.



Shaded
(Graphics Window)



Realistic
(Ray Tracing)



Inventor Studio
(Global Lighting)

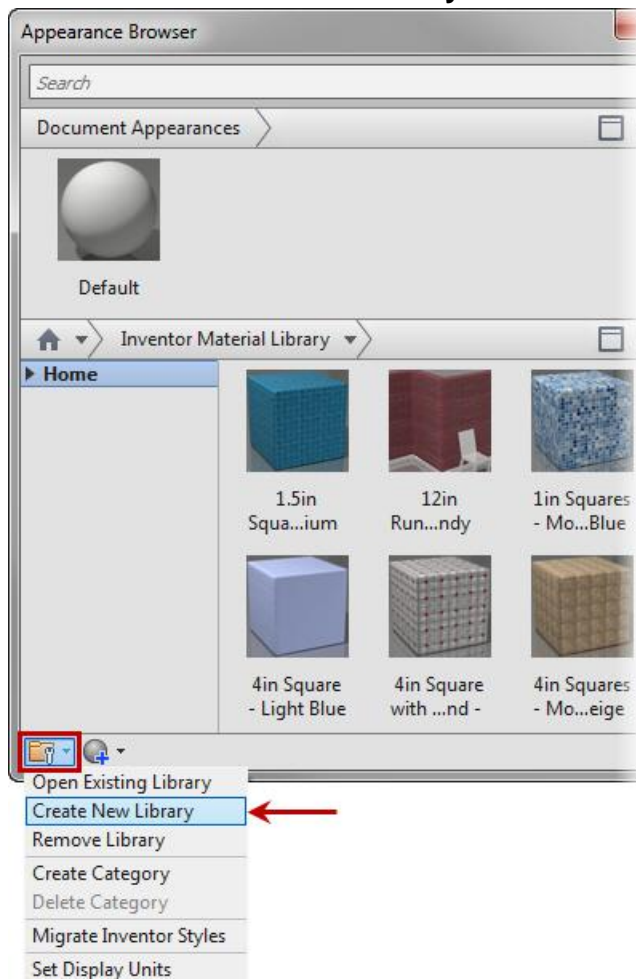
Creating and Sharing Custom Libraries

Create an Appearance Library

- On the **Quick Access Toolbar**, click the **Appearance** tool

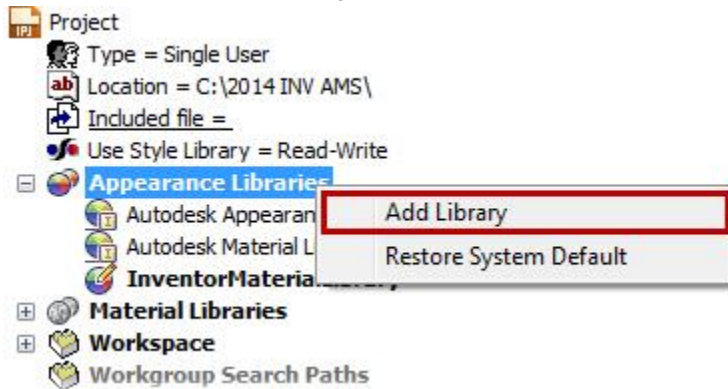


- Click the **User Defined Libraries** button in the lower left corner of the **Appearance Browser**.
 - Select **Create New Library**

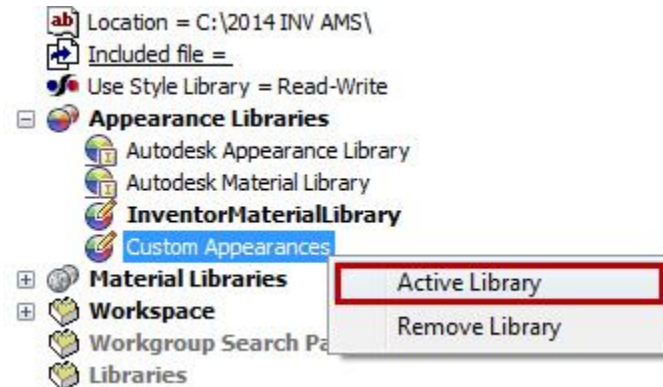


- In the **Create Library** dialog box, enter a file name for the new library and save the new library.
- Open the **Projects** dialog.
Active the appropriate project.

- Right click on **Appearance Libraries**
 - Select **Add Library**



- Locate library file.
- Under **Appearance Libraries**, right click on the new library
 - Select **Activate**



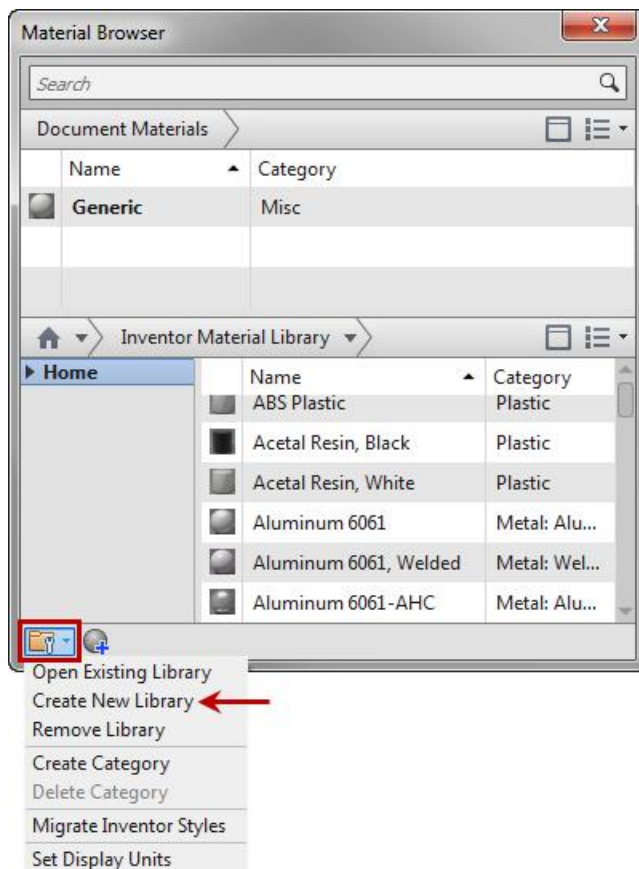
- Save the project

Create a Material Library

- On the **Quick Access Toolbar**, click the **Materials** tool

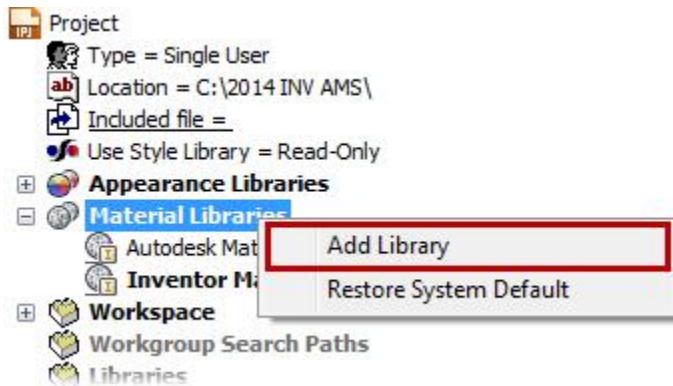


- Click the **User Defined Libraries** button in the lower left corner of the **Material Browser**.
 - Select **Create New Library**

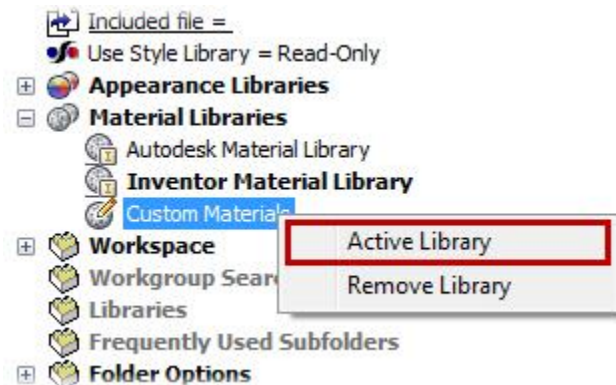


- In the **Create Library** dialog box, enter a file name for the new library and save the new library.
- Open the **Projects** dialog.
Active the appropriate project.

- Right click on **Material Libraries**
 - Select **Add Library**



- Locate library file.
- Under **Material Libraries**, right click on the new library
 - Select **Activate**

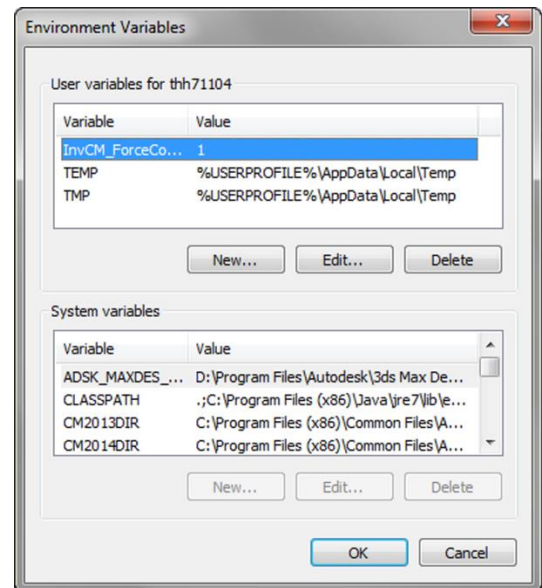
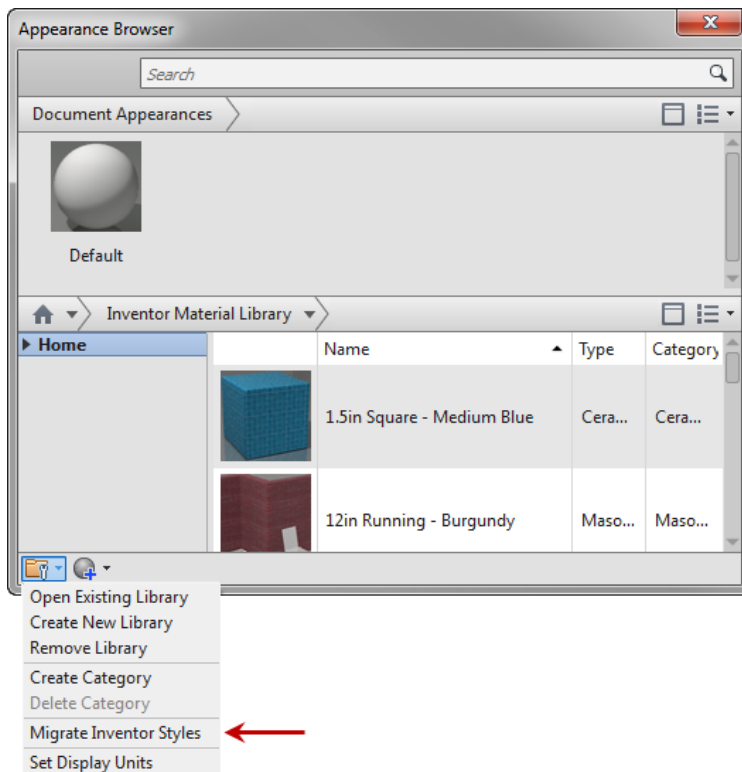


- Save the project

Migrating To Generic Type

Set the following **Windows Environment Variable** to migrate pre Inventor 2012 color styles to the “Generic Type”.

Windows Environment Variable
InvCM_ForceConvertToGeneric
 Value = 1



Select Migrate Inventor Styles from the **Appearance Browser**, and then locate the original Design Data folder from the Inventor 2012 installation.

Set Reflectivity and Self Illumination

Follow the link below to the *Being Inventive* blog site.

Here you will find a VBA code and instructions on how to set reflectivity and self-illumination for your Generic Type appearances.

[VBA setting reflectivity and self-illumination in appearances](#)

Additional Information



Online Training for Engineers

Sign up for a free account.

www.myigetit.com

Free course available - 4 hour long course - Videos and Projects.

[Autodesk Inventor 2014 Appearance, Materials and Styles](#)